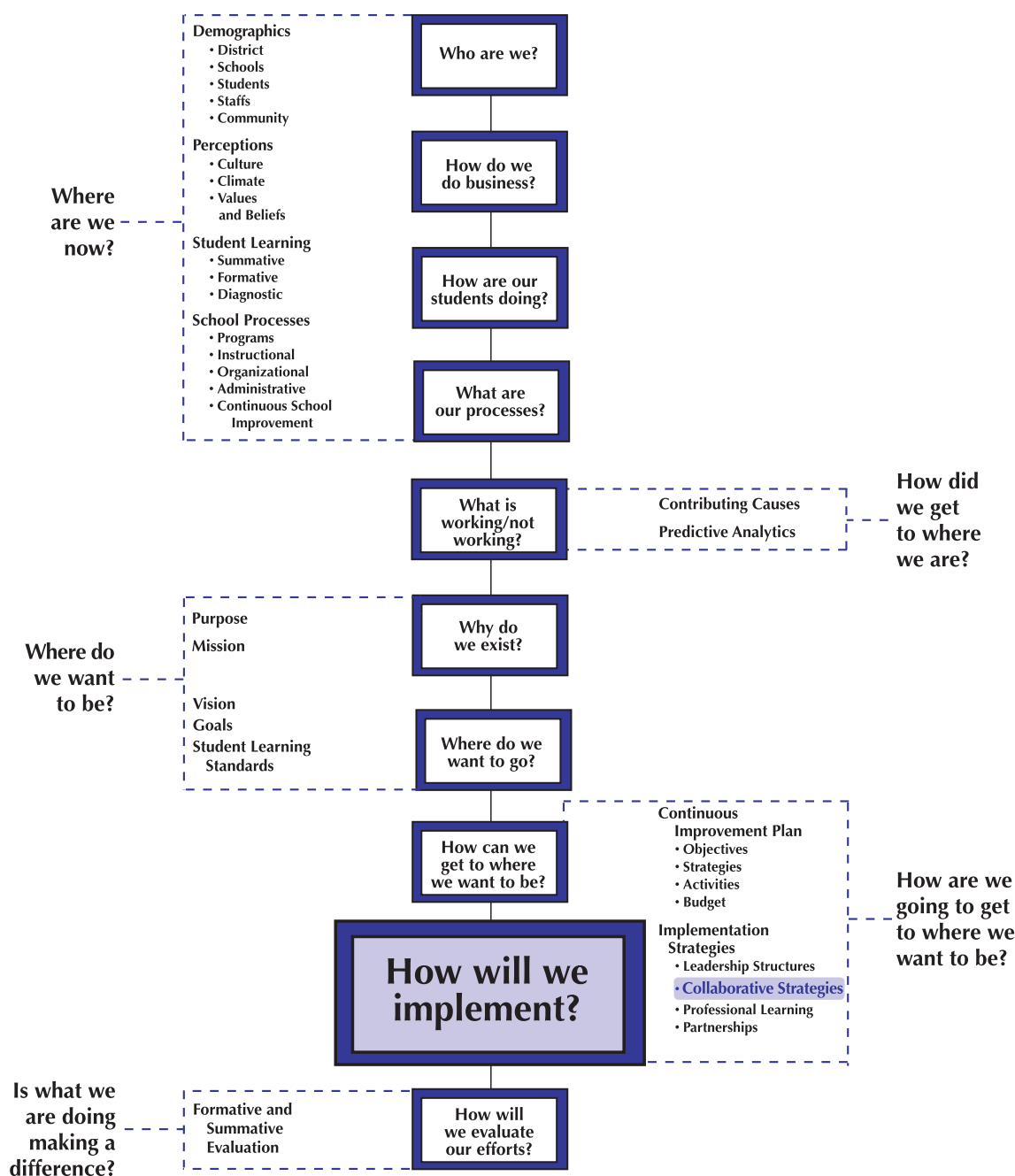# STRATEGIES FOR TEACHERS:
USING DATA TO IMPLEMENT THE VISION THROUGH THE CONTINUOUS SCHOOL IMPROVEMENT PLAN TO IMPROVE TEACHING AND LEARNING

11

Where are we now?

Demographics
- District
- Schools
- Students
- Staffs
- Community

Perceptions
- Culture
- Climate
- Values and Beliefs

Student Learning
- Summative
- Formative
- Diagnostic

School Processes
- Programs
- Instructional
- Organizational
- Administrative
- Continuous School Improvement

Who are we?

How do we do business?

How are our students doing?

What are our processes?

What is working/not working?

How did we get to where we are?

Contributing Causes

Predictive Analytics

Where do we want to be?

Purpose

Mission

Vision

Goals

Student Learning Standards

Why do we exist?

Where do we want to go?

How can we get to where we want to be?

How are we going to get to where we want to be?

Continuous Improvement Plan
- Objectives
- Strategies
- Activities
- Budget

Implementation Strategies
- Leadership Structures
- Collaborative Strategies
- Professional Learning
- Partnerships

How will we implement?

Is what we are doing making a difference?

Formative and Summative Evaluation

How will we evaluate our efforts?

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What would it take to get learning growth for every student, every year, in your school? Teachers and administrators often tell me the answer to that question pivots on two difficult elements:

1. Teachers and administrators must honestly review and use their data—ALL their data, not just study a gap here or there.

2. Teachers and administrators must truly believe that all children can learn, or learning cannot and will not happen.

Victoria L. Bernhardt
Executive Director, *Education for the Future*

These two comments reflect the top elements that teachers and administrators say need to be in place to get learning increases for every student, every year.

Are the two comments related? Very closely. Do they work hand-in-glove? Most definitely. Why would any educator not believe that all students can learn; after all, isn't it her/his job to ensure that all students learn? If we follow the arguments in the perceptions section (Chapter 4), one of the reasons some teachers might not believe that all students can learn is because they have never experienced reaching all students and helping them all learn; and when teachers do have this experience, they change their belief systems. Enter the effective use of data that can tell teachers what students know and do not know so teachers can adjust their teaching to help *all* students learn.

Why would any educator not believe that all students can learn; after all, isn't it her/his job?

Some researchers believe that to get teachers using data, professional learning facilitators need to provide more instruction to teachers on how to understand and use the numbers. I disagree. I think teachers do fine reading data and understanding what students need to know when the learning data are organized in a manner that they can quickly comprehend and use. Effective professional learning, instead, has teachers analyzing and determining how to use the data they gather, as opposed to talking about how to look at data they do not have in front of them.

To get teacher to effectively use data, our challenges are to:

- *Get appropriate data to the teachers;*
- *Set-up the structures for collaboration; and*
- *Establish leadership for accountability.*

To get teachers to effectively use data, our challenges are to:

◆ get *appropriate data* to the teachers in a manner that they can use;

◆ set-up the *structures* for teachers to *collaborate* with professional colleagues to share challenges and understandings, try strategies, and reflect; and

◆ establish *leadership* to hold the process and people accountable.

One thing is clear: *using data to improve teaching and learning will not happen on its own.* We must *lead* the way to build the *collaborative structures,* inspire the *vision* of effective teaching and data use, and encourage *strategies* to make it all happen.

STRATEGIES THAT LEAD TO EFFECTIVE DATA USE

When a school implements the continuous school improvement framework, it has begun an excellent journey of using data effectively to improve teaching and learning. Staff members know where they are as a school, as well as what processes and programs are working and which ones are not working. They have a shared vision to be carried out through a strong plan, collaborative leadership structures, professional learning, and quality partnerships. The missing piece is what the teachers do in their collaborative teams to gather, analyze, and use student learning data to improve teaching and learning in classrooms, and how the data use is supported.

Five preconditions for the effective use of student learning data by teachers include:

1. the use of appropriate data;

2. a shared vision;

3. leadership encouragement and support;

4. structures for collaboration; and

5. strategies to support each other in the attainment of new teaching skills.

Each of these is discussed on the pages that follow.

The Use of Appropriate Data

It *does* matter what assessments teachers use.

Quality formative assessments, which can take many different forms, should help teachers know—

◆ what students know and do not know with respect to what teachers want them to know and be able to do;

◆ how students are learning;

◆ how teachers are teaching;

◆ what teachers need to do differently to get different results; and

◆ who is getting different (better) results, and why.

If formative assessments are not aligned to learning standards, there will be a problem. One elementary school decided to use an assessment in all grades that

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worked well for the lower grades. It banked its year on that assessment. The teachers could see student progress and felt very good about the assessment until the summative test results showed the school had many fewer students proficient than the previous year, in every grade level, except the lowest grades. That assessment was assessing something important, but it was not developmentally keeping up with the grade levels and standards, and was not a good predictor of the summative test, which did assess standards acquisition. The assessment was valid but was not used in a valid fashion.

Districts and schools must support teachers in adopting formative assessments for every subject area that assess standards attainment.

Teachers need support in getting real-time formative data to review in a timely fashion. Districts and schools must support teachers in adopting formative assessments for every subject area that assess standards attainment. In addition, we recommend creating a Data Leadership Team to take on the task of assessing the reliability of the data and in getting appropriate data in the hands of teachers in a timely fashion so teachers can spend their time analyzing and discussing the results in their teams, and implementing new strategies. An example of the purposes and responsibilities of a Data Leadership Team is shown in Figure 11.1.

Figure 11.1
EXAMPLE: DATA LEADERSHIP TEAM

A Data Team is a meaningfully assigned group of educators (e.g., grade level teams, department teams) who examines student data and student work in collaborative, structured, scheduled meetings that focus on improving teaching and learning—their common mission. The Data Leadership Team leads the data team process, and makes sure the work of the data teams is conducted smoothly. The Data Leadership Team should be comprised of educators from across grade levels and subject areas, who enjoy working with data.

Purposes

Purposes of the Data Leadership Team include:
1. Supporting and facilitating dialogue with colleagues in analyzing data and student work to improve teaching and learning.
2. Ensuring that data are available to teachers in an appropriate fashion for review, on schedule.
3. Enabling teacher ownership of the data review process that motivates teachers to implement and monitor new strategies.
4. Ensuring exploration of current processes, based on data, before identifying solutions.
5. Ensuring the implementation, monitoring, and follow-through of next steps.

Responsibilities

Responsibilities of the Data Leadership Team include the following:

Technical
- Learn the school's data tools and databases, and support others in their uses.
- Make sure appropriate reports and graphs are available in a timely fashion for teacher review.
- Help re-roster or reorganize student achievement results before each meeting.
- Look at all data in perspective to other data, i.e., across grade levels, schoolwide, longitudinal, triangulated with other student learning data, assessed with other types of data. Follow-up with whole school inquiry processes when needed.
- Establish longitudinal reports of individual students, for each teacher, for grade levels, and for the school on multiple measures of data.
- Assist in planning a work calendar that is focused on the best and most immediate use of available data.

Figure 11.1 *(Continued)*
EXAMPLE: DATA LEADERSHIP TEAM

Ensure the Integrity of the Team
- Make sure all teachers understand the purpose of the team (e.g., collective responsibility for all teachers to improve learning for all students) and the team meetings.
- Set meeting norms. (See below.)
- Build the conditions for trust.
- Ensure safety to ask challenging questions.
- Make sure all teachers have a chance to participate in the meetings.
- Use time well in meetings.

Instructional
- Encourage all staff members to make instructional decisions based on data and standards implementation.
- Help teachers analyze the data, and determine which instructional strategies need to be improved.
- Help teachers target their instruction to meet the needs of the students who are not showing progress.
- Ensure the implementation of instructional strategies across all grade levels.
- Monitor and measure to ensure the desired results are occurring.

Responsibilities *(Continued)*

Collaboration and Communication
- Learn and facilitate the use of protocols for data dialogues.
- Prepare questions for data review protocols.
- Lead the creation of flowcharts or other mechanisms to describe what it would look like if all teachers were implementing the vision or programs as expected and desired.
- Keep administrators informed, if they are not in attendance at data team meetings.

Follow-through
- Assist school in creating a vision for continuous school improvement based, in part, on the use of data.
- Help the school staff create the time to learn new instructional strategies.
- Plan for next steps, reflections, and follow-through.
- Monitor and measure the implementation of the State or Provincial Standards and the school vision.
- Set up visits to all classrooms, with feedback.

Norms for Collaborative Data Analysis
- Arrive at all meetings on time and with all needed materials.
- Start and end each meeting on time.

At least one week prior to the data analysis meeting, distribute, preferably by e-mail, an agenda identifying the data to be analyzed and what participants should bring with them to the data analysis meeting.
- Score all assessments, compile and graph the results prior to the meeting so that the data are ready to be analyzed.
- Support colleagues by asking clarifying questions. Criticism of any kind is inappropriate.
- Cast no blame. Use data solely to help each other determine how to teach more effectively.
- Approach data analysis as a learner. There are no "right" or "wrong" analyses.

Protocols for Collaborative Data Analysis Review

Protocols are guidelines for dialogue that everyone understands and commits to using in team meetings. Protocols permit conversations to take place that build skills, trust, and the culture for collaborative work, without blame. (See *Communication Protocol,* Appendix Q.)

Time

One hour every week, minimum.

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A Shared Vision

When school staff agree and commit to a shared vision, they are collaborating on what they know and believe will make a difference for student learning.

When school staff agree and commit to a shared vision, they are collaborating on what they know and believe will make a difference for student learning. They create common understandings about what to teach, how to teach, how to assess, and how each person will treat each other. They also have common understandings of what they are going to do when students know the information and what they are going to do when students do not know the information. These agreements make data use so much more effective.

A school can use *Measuring a Program or Process* (Appendix D) to ensure a shared vision for data use, such as Somewhere School did in Figure 11.2. They could also use this process to come to agreement on collaboration, differentiating instruction, reteaching, and teaching to learning standards.

Leadership Encouragement and Support

A vision will not make a difference unless it is modeled and reinforced by leadership. Leadership structures are based on the premise that it is everyone's job in the organization to implement the vision.

A vision will not make a difference unless it is modeled and reinforced by leadership. Leadership structures, described in Chapter 10, are based on the premise that it is everyone's job in the organization to implement the vision. While we would never put the Principal of a school in the leadership role for any team (because the team might not meet when the leader is absent and because we want teachers to own the process), the Principal has to lead the cause of implementing the vision and using data. The Principal must:

- ◆ monitor implementation of the vision and data use;
- ◆ facilitate shared leadership and implementation of the vision;
- ◆ ensure that the appropriate use of data is taking place in each classroom;
- ◆ ensure that strategies within the leadership structures are effective;
- ◆ reinforce collaboration and teacher ownership of the results;
- ◆ hold structured collaboration time sacred;
- ◆ monitor schoolwide data throughout the year to ensure instructional coherence; and
- ◆ hold individuals and collaborative teams accountable for the results.

Figure 11.2
EXAMPLE: SOMEWHERE SCHOOL TEACHERS USING DATA TO IMPROVE TEACHING AND LEARNING

PURPOSE		PARTICIPANTS	IMPLEMENTATION		RESULTS
What is the purpose of the program or process?	*How will you know the purpose is being met? (What are the outcomes?)*	*Who is the program/process intended to serve?*	*What would it look like when the program/process is fully implemented?*	*How is implementation being measured?*	*What are the results?*
The purpose of teachers *using data* is to use multiple measures of student assessment data to continuously improve teaching and learning. Teachers, in collaborative teams, review student learning data and support each other's teaching to ensure that all students are learning. Teachers follow the cycle of trying new strategies and reflecting on results.	When the purpose for using data is met: • *all* students will show learning growth on meeting standards; • teachers will adjust their instruction to meet the needs of students who are not meeting standards and challenging those who do; • attendance and behavior will improve because students' needs are being met, and they want to be at school; • teachers will work collaboratively to help all students, not just the students in their own classroom; • teachers and students feel that they belong to the school, that students are challenged, and that the school is helping to prepare students for the 21st Century; • teachers feel that they know how to teach to standards, regardless of where students are on the proficiency scale. When using data is implemented as intended, there will be a continuum of learning that makes sense for all students. There will be instructional coherence in every subject area.	Using data is for all teachers so they may make a positive impact on the learning of all students. **Who is being served? Who is not being served?** According to our results, not all students are being served. The students not being served are those who are not meeting grade level standards.	When teachers are working collaboratively to use data to improve teaching and learning, they will, together, determine— • what concepts and skills students need to know and be able to do, and when. • how they will know that students know these concepts and skills. • a timeline for giving assessments during the year. • which instructional strategies will make a difference. • a plan/flowchart for what teachers will do when students do not know the concepts and do not have the skills, and what teachers will do when students know the concepts and have the skills. • times, strategies, and roles and responsibilities for grade-level/subject-area work during the year. At the beginning of the year, semester, unit, teachers administer post-assessments as pre-assessments. In addition, they— • monitor student progress throughout the course of the unit. • review results with team members. • determine how to support students who are not proficient, and students who are proficient in specific skills. • review/update curriculum maps. At predetermined times, teachers will review student learning progress across grade levels to ensure instructional coherence.	Teachers will create a monitoring tool to support the implementation of these strategies. Teachers are held accountable to implementing standards and reaching every student, through classroom observations. Administrators monitor and encourage the implementation of the using data structure and strategies throughout the school. **To what degree is the program being implemented?** All teachers are a part of a using data team and participate fully in all strategies.	Results show that teachers are assessing student growth in all subject areas, sharing the challenges of teaching with each other, implementing new strategies to meet the needs of all students, and supporting each other in meeting the needs of all students. End of year achievement results show that all students are making at least a year's growth. Teacher morale is high because teachers feel excited about being able to predict and prevent failure with their actions.

NEXT STEPS:

This school needs to ensure that:

• appropriate formative assessments are being used in every subject area and every grade level.
• leadership is following through with monitoring and observations of the intent of the using data structure.
• instructional coherence is being monitored throughout the year.

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Structures for Collaboration

Peter Senge says:

> *Collaboration is vital to sustain what we call profound or really deep change, because without it, organizations are just overwhelmed by the forces of the status quo.*

Most schools say they encourage and have many opportunities for collaboration among their teachers. However, what they do in these collaborative communities is as varied as the schools. What we want teachers to do in these communities include:

◆ Agree and commit to working with each other to help all students learn.

◆ Agree on what they want students to know and be able to do, and how they will know that each student has learned it.

◆ Agree on how and when they will assess student knowledge.

◆ Establish a plan/flowchart for what teachers will do when students do not know the concepts and do not have the skills, and what teachers will do when students know the concepts and have the skills.

◆ Review data, discuss results, and support each other in trying new strategies to ensure students are learning.

◆ Share professional knowledge, understanding, experience, vision, and goals.

◆ Support each other in the challenges of practice.

◆ Hold themselves and the collaborative teams accountable for results.

◆ Improve teaching and learning.

Collaboratively, teachers and administrators must determine, commit to, and hold sacred when they will meet, preferably once a week, to review student learning results for their grade levels, subject areas, and individual students, and work on next steps.

At the beginning of the year, semester, unit, it would be great to have all teachers administer common post-assessments as pre-assessments, review the results, discuss and alter their teaching plans to better meet the needs of the students. Then on a regular basis—

◆ Assess student progress.

◆ Review results.

◆ Determine how to support students who are not proficient, and students who are proficient in specific skills and knowledge.

◆ In teacher teams, review grade-level/subject-area results.

◆ Determine how teachers will support each other.

◆ Re-establish goals for the year, quarter, month, unit.

◆ Review/update curriculum maps.

Strategies to Support Each Other in the Attainment of New Teaching Skills

To make a difference with teaching and learning, and to use what little time teachers have to collaborate, the work in collaborative teams must be structured. Many strategies exist for encouraging collaboration among team members so they can help each other improve their teaching and their students' learning. Below are three favorites.

The Communication Protocol

One strategy that was started by the Coalition of Essential Schools has helped many schools engage in hard conversations about improving teaching and learning is a communication protocol. With a communication protocol, team members take turns bringing lesson plans, student learning results, examples of student work, case studies, and any other samples of materials to the team to critique, as well as two questions they would like the team members to consider. In the timed protocol, team members reflect, discuss, and offer suggestions. The presenting team member makes a plan for improvement and reports back to the team about progress. A version of the formal *Communication Protocol* is shown as Appendix Q.

Examining Student's Work for Instructional Coherence

One of the goals of continuous school improvement is instructional coherence; in other words, making sure that grade levels and subject areas have horizontal and vertical alignment. There are many ways to ensure this alignment. *Examining Students' Work* (Appendix R) is a very powerful way to assess and ensure alignment, and to engage staff in conversations about standards, student work, and working together for the benefit of the students.

The protocol for this activity starts by explaining the purpose for looking at student work is to determine how to improve instructional practices to ensure all students meet the student learning standards. Have grade level teams purposefully choose examples of student work related to a specific content area or

PROTOCOL TIMING

15 min: *Presenter sets context for the work; uses examples of student work, student data, case studies, lesson plans, etc. Presenter poses two key questions she/he wants colleagues to address.*

5 min: *Participants ask clarifying questions.*

5 min: *Participants and presenter spend time in reflective writing, organizing notes and thoughts.*

15 min: *Participants discuss their observations and thoughts, and begin to explore options, consider gaps, and seek solutions or recommendations among themselves with no input from the presenter.*

15 min: *Presenter reflects verbally on participants' discussion while team members silently take notes. Presenter describes next steps.*

10 min: *Facilitator debriefs the session.*

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standard. A rubric, or some other criteria, can be used to get a selection of performance levels. On the wall, place vertically, the number 4, under it the number 3, followed by the number 2, and ending with the number 1 (the same as the scoring criteria you are using). Horizontally, across the top, place numbers or descriptions that spell out grade levels. Line up the student work by grade level and achievement level (see photo in Appendix R). After the student work has been posted, have teachers review the work and write on chart paper, answering questions, such as:

Question 1. What did the student know and understand at this level? What did the student not know or not understand?

Question 2. What questions would you ask this student to learn more about what she/he understands and knows?

Question 3. What strategies would you use to help this student understand the concepts and move to at least the next level?
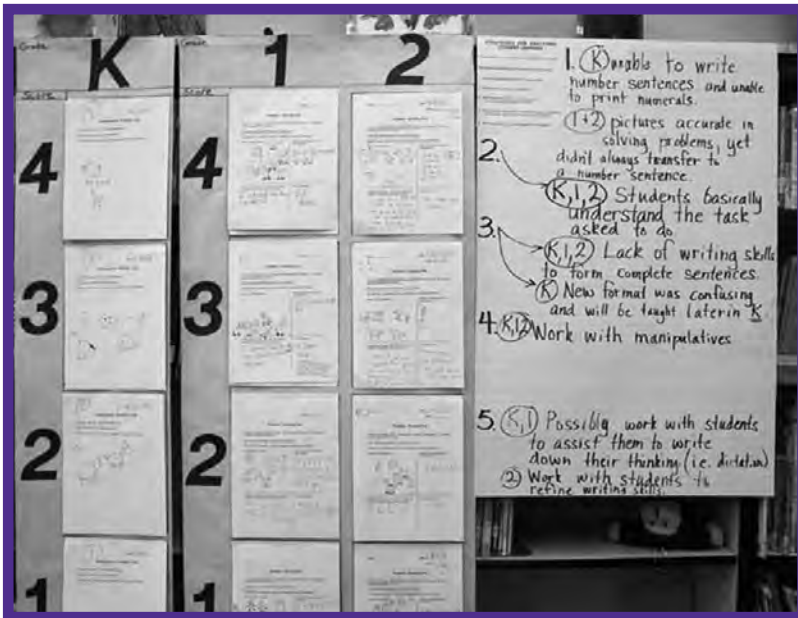
Have staff members look at the student work (also called exemplars) at a "4 level" to understand what the standards require across the grade levels. Make sure they look at all the grade levels, not just their grade level. Ask participants to reflect on which concepts need to be taught in more depth and determine at which grade level. The more practice in structured settings that teachers have together examining student work, the more likely it will be that they will spend time informally looking at student work in pairs or in teams. This activity will lead to improved teaching at all levels and in all subject areas.

Teachers upon occasion state that some students do not have the ability to achieve, and that the teachers have to work extremely hard to move those students' learning forward.

Ability to Achievement

The purpose of this activity is to engage teachers in discussions with colleagues about how to improve learning for all students in the classroom. (See Appendix S.)

Teachers, on occasion, state that some students do not have the ability to achieve, and that the teachers have to work extremely hard to move those students' learning forward. This activity helps teachers come to grips with their perceptions of students' abilities, then collaboratively consider additional ways to improve students' achievement. A summary of steps follow.

DEFINITIONS ~ Ability: *Perceived aptitude*

Achievement: *Evidence of attainment of knowledge*

Mathematics
Ability +

List the names of the students you feel **have the ability to achieve and do** *not* **achieve.**	List the names of the students you feel **have the ability to achieve and** *do* **achieve.**
Achievement -	*Achievement +*
List the names of the students you feel **do not have the ability to achieve and do** *not* **achieve.**	List the names of the students you feel **do not have the ability to achieve, but** *do* **achieve.**

Ability –

Step 1. **Have teachers complete matrix.** Before the meeting day, by grade levels or subject areas, have teachers choose a subject area, write the names of their students on self-stick dots, and then place each dot in one of the ability achievement quadrants, with respect to teachers' opinions of each student's ability to do the work and to achieve. Teachers might line up the dots for their class, color code the dots by gender or proficiency levels on an achievement measure, or any other meaningful way.

Step 2. **List common characteristics.** During the meeting, have teachers discuss and list the common characteristics of the students who fall into each of these quadrants. If possible, add past proficiency levels next to the names of students.

Step 3. **Brainstorm what processes need to be put into place in order to help all students achieve.** A question such as *What can we do in every quadrant to move these students forward?* might start the discussion. If possible, have the longitudinal individual student growth profile available for each child during this discussion.

Step 4. **Determine what needs to be done schoolwide to move all students to the highest quadrant.** For example: one school determined that they needed to clarify their RtI process and improve their diagnostic assessments so they cold have the structures in place to close basic skills gaps for all students. If done well, this activity will help teachers see what processes need to change in order to get different results. It will also, hopefully, change some belief systems about student abilities. Perceived abilities might be clouding the teachers' interactions with students and, therefore, students' achievement levels.

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HOW MUCH TIME DOES IT TAKE?

The collaborative work of teachers is ongoing.
Teachers should be working together in their
teams for no less than an hour a week.

REFLECTION QUESTIONS

1. What does it take to get teachers to use data to improve teaching and learning?

2. Why is data use important to continuous school improvement?

3. Why are collaborative structures important to data use?

4. Why is vision important to data use?

5. What types of collaborative learning structures to use data exist in your school? How might you improve them?

APPLICATION OPPORTUNITIES

1. How do your teachers use data now? How can you improve the use of data to improve teaching and learning? Use the *Measuring a Program or Process* table, Appendix D, to spell out the purposes for using data and how implementation will be monitored.

2. How do your teachers collaborate now and how might you improve the collaboration? (Consider and commit to trying at least one of the activities described in Appendices Q, R, S.)

3. Create a flowchart of collaborating for data use. (Use *Flowcharting a School Process,* Appendix E.)